

Use participatory computational methods for housing design

M-D. LEE, T-J. LEE. Use of participatory computational methods for senior housing design. Gerontechnology 2014;13(2):237; doi:10.4017/gt.2014.13.02.070.00 **Purpose** Within interior design research, researchers often use pictures as a communication tool to find out people's perception of a space. However, the selection of a particular methodology in any research is dependent upon the topic being investigated and the population to be studied¹. Therefore, earlier research has highlighted the fact that elderly people are different physically, cognitively, and socially². The method might have its limitations as it could affect an individual's attitude toward their original thinking and could have a significant influence on his/her final decision³. Thus, in this study, a new methodological approach has been employed to determine more accurate results. **Method** The research involves 78 participants who are healthy adults aged 60 and over. These comprise 37% (n=29) males and 63% (n=49) females. There are two phases involved in conducting the workshop for the participants to design their retirement dream home: (i) Education stage, to give the elderly participants a brief introduction to the interior elements and learn the basic idea of the interior design process; and (ii) A semi-structured interview with instant 3D modelling, to ask their opinion about the 'retirement dream home'. Then, during this process, the researcher adopts 3D modelling software as a communication tool to instantly build the 'dream home' and match the participant's description. Effectively, this reduces the perception gap between the designer and elderly people. **Results & Discussion** The results show that by using 3D modelling software as a communication tool within the interview process could possibly remove most of the bias that might occur via conventional techniques, as with questionnaires or interviews etc⁴. Indeed, the use of software in this context enables the participants to avoid having to rely on their imagination and memories of the space to give feedback and, so, any unintentional influences are eliminated. Moreover, this results in the elderly participants becoming more interested in the unfamiliar topic and encourages them to feel they are making a valid contribution to the project. Ultimately, this may improve the effectiveness of data gathered from the elderly respondents. More importantly, this design model (*Figures 1 & 2*) for the small size residential apartment can be used as a specific guide by interior designers or researchers when dealing with the relevant design.

References

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Figure 1. Design model for the small size residential apartment (living room)

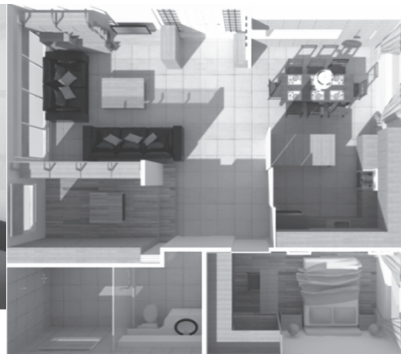


Figure 2. Design model for the small size residential apartment (plan)